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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MICHAEL MASCHKE

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Appeal 2009-007413  
Application 10/804,707  
Technology Center 3700

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Before WILLIAM F. PATE, III, STEFAN STAICOVICI, and  
FRED A. SILVERBERG, *Administrative Patent Judges*.

STAICOVICI, *Administrative Patent Judge*.

DECISION ON APPEAL<sup>1</sup>

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

## STATEMENT OF THE CASE

Michael Maschke (Appellant) appeals under 35 U.S.C. § 134 (2006) from the Examiner's decision finally rejecting claims 1-4 under 35 U.S.C. § 103(a) as unpatentable over Lemelson (US 5,845,646, issued Dec. 8, 1998) and Koch (US 6,052,610, issued Apr. 18, 2000). Appellant's representative presented oral argument on June 17, 2010. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2006).

## THE INVENTION

Appellant's invention relates to a catheter for magnetic navigation in the human body having an electromagnet or a permanent magnet arranged in the catheter tip and a plurality of electromagnets distributed along the length of the catheter, such that the electromagnets are controlled independently of each other. Spec. 3, ll. 7-13 and fig. 1.

Claim 1, the sole independent claim, is representative of the claimed invention and reads as follows:

1. A catheter for magnetic navigation in a human body by interacting with an external magnetic field, said catheter comprising:

an elongated catheter body terminating in a catheter tip;

a magnet disposed at said catheter tip adapted to interact with said external magnetic field to move said catheter to a desired position in a human body;

a plurality of separated, independently controllable electromagnets disposed along said catheter body; and

a current supply connected to said plurality of electromagnets to supply respective currents thereto to cause

said plurality of electromagnets with current supplied thereto to exhibit respectively different magnetic moments.

## OPINION

Pointing to column 14, lines 3-7 of Lemelson<sup>2</sup>, the Examiner found that Lemelson discloses a catheter that can be selectively shaped when using electromagnets disposed along the catheter wall. Ans. 3.

Appellant argues that although the catheter of Lemelson can be selectively shaped, the electromagnets of Lemelson are “not individually controlled so as to give them respective different magnetic moments.” App. Br. 4-5. According to Appellant, a person of ordinary skill in the field of catheter design, when reading column 13, lines 3-7 of Lemelson, would understand that certain electromagnets of Lemelson would be activated while others will be deactivated, such that only a portion of the catheter is responsive to an external magnetic field. App. Br. 4. Hence, Appellant argues that “the controlling mechanism of [Lemelson’s electromagnets] is *not* currents that are individually supplied to multiple electromagnets in the catheter, but is instead control of the *external* magnetic field that is applied.” App. Br. 5.

In response, the Examiner takes the position that a person of ordinary skill in the art would have understood Lemelson’s teaching of a catheter having electromagnets that can be “selectively-shaped” to mean not only “the limited ability of only turning on or off the electromagnets” but also

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<sup>2</sup> “If small electromagnets are used in the catheter walls themselves, only a desired part of the catheter length can be made responsive to the *externally-applied magnetic field*, thus making it possible to *selectively shape* the catheter inside the patient.” *See also* Lemelson, fig. 11. Emphasis added.

“driving the electromagnets at different current levels to induce different magnetic moments within the catheter, thereby causing precise shaping of the catheter.” Ans. 6. Accordingly, the Examiner found that the use of “the verb ‘shape’ (col. 14, l. 6) *automatically implies* a large variation of controls” and “does not limit an operator to only select a uniform current for all the electromagnets being driven.” Ans. 7. Emphasis added. The Examiner further found that a person of ordinary skill in the art would have readily known (1) the relationship between electrical current and magnetic moment and (2) that catheter navigation throughout a body requires contortion of the catheter. Ans. 6-7. The Examiner then concluded that a person of ordinary skill in the art of catheter navigation would understand that Lemelson’s electromagnets “require the use of different amounts of currents for different electromagnets within the catheter.” Ans. 7.

While the test for establishing an implicit teaching is what the teachings of Lemelson would have suggested to a person of ordinary skill in the art, the teachings “. . . cannot be viewed in the abstract. Rather, they must be considered in the context of the teaching of the entire reference.” *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000). In this case, it is our finding that Lemelson discloses a catheter having ferromagnetic materials or strong magnets or wound electromagnets disposed in pockets along the catheter’s wall and that the position of the catheter is controlled by an externally applied magnetic field. Lemelson, col. 13, l. 60 through col. 14, l. 3 and fig. 11. Lemelson further discloses that when electromagnets are used, only a portion of the catheter length is responsive to “the externally applied magnetic field” so as to “selectively shape the catheter inside the patient.” *Id.*, col. 14, ll. 3-7. Lastly, Lemelson discloses an alternative embodiment

where a single magnet is moved longitudinally along the interior wall of the catheter so as to alter the application point of the externally applied electromagnetic force. *Id.*, col. 14, ll. 7-11. Hence, we find that Lemelson discloses controlling the motion of a catheter, that is, controlling the shape of the catheter inside the patient, by controlling an externally applied electromagnetic field.

The Examiner has not provided any evidence to extrapolate Lemelson's teaching of controlling an electromagnetic field externally applied to a plurality of electromagnets to Appellant's claimed invention of individually controlling the electrical current supplied to a plurality of electromagnets. Although we appreciate that electricity and magnetism are interrelated, nonetheless, controlling an electromagnetic field is quite different than controlling an electrical current. Merely knowing that a relationship exists between electrical current and magnetic moment and that catheter navigation requires contortion is insufficient to show that Lemelson discloses controlling the shape of a catheter inside a patient by controlling the electrical current supplied to a plurality of electromagnets.

Furthermore, the Examiner has not provided any evidence to show that the use of the term "shape" in Lemelson "automatically implies a large variation of controls" so that it "does not limit an operator to select a uniform current for all the electromagnets being driven." *See* Ans. 7. We view the use of the phrase "to selectively shape" in column 14, line 6 to refer to the act of controlling the motion of the catheter, in response to an externally applied electromagnetic field, as it moves within the body of a patient. As noted above, controlling an electromagnetic field is quite different than controlling an electrical current. We do not see how the

phrase “to selectively shape” would have suggested to a person of ordinary skill in the art controlling the shape of a catheter inside a patient by individually controlling the electrical current supplied to a plurality of electromagnets, as the Examiner opines. Therefore, we characterize the Examiner’s position that Lemelson discloses individually controlling the electrical current supplied to a plurality of electromagnets as based on speculation and conjecture.

In conclusion, the Examiner has not provided sufficient evidence to support the conclusion that Lemelson discloses controlling the shape of a catheter inside a patient by individually controlling the electrical current supplied to a plurality of electromagnets. The disclosure of Koch does not cure the deficiencies of Lemelson as described above. Therefore, for the foregoing reasons, the rejection of independent claim 1 and dependent claims 2-4 under 35 U.S.C. § 103(a) as unpatentable over Lemelson and Koch cannot be sustained. *See In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988) (If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim dependent therefrom is nonobvious).

## SUMMARY

The decision of the Examiner to reject claims 1-4 is reversed.

REVERSED

Appeal 2009-007413  
Application 10/804,707

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